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REF: DIAXX-2 7547 APR 1969

SUBJECT: LOW GAMMA PROCESSING OF GLASS LAMP MATERIAL

1. A DETAILED IMAGE QUALITY COMPARISON OF MISSION MATERIALS PROCESSED IN MX578 WITH THAT PROCESSED IN LOW GAMMA CHEMISTRY IS NOT PRACTICAL. THE MINOR QUALITY DIFFERENCES ASSOCIATED WITH PROCESSING CANNOT BE SEPARATED FROM THOSE DIFFERENCES ASSOCIATED WITH DEGRADING FACTORS SUCH AS ATMOSPHERICS, CAMERA PERFORMANCE VARIABLES, ETC. THE FOLLOWING GENERAL STATEMENTS, HOWEVER, CAN BE MADE.

A. MOST MISSIONS FLOWN IN THIS PROGRAM ARE OVEREXPOSED NEAR THE END OF THE MISSION. THE CONSEQUENCES OF OVEREXPOSURE ARE MINIMIZED BY THE USE OF LOW GAMMA CHEMISTRY.

B. A DISTINCT LOSS OF CONTRAST IS APPARENT IN THE MATERIALS PROCESSED IN LOW GAMMA CHEMISTRY COMPARED TO THOSE PROCESSED IN MX578. THIS LOSS OF CONTRAST MAKES TARGET DETECTION MUCH MORE DIFFICULT DURING MISSION SCANNING. IN ADDITION, OBJECT IDENTIFICATION BY MEANS OF SHADOW FORM IS MORE DIFFICULT ON LOW CONTRAST POSITIVES.

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C. WHEN HAZE CONDITIONS PREVAIL, A GREATER LOSS OF DETAIL IS APPARENT IN THE MATERIALS PROCESSED WITH LOW GAMMA CHEMISTRY THAN IN THE PRODUCTS PROCESSED IN MX578.

2. FROM PARAGRAPHS B AND C ABOVE IT WOULD APPEAR THAT LOW GAMMA PROCESSING HAS A DEGRADING EFFECT ON THE EXPLOITATION OF GLASS LAMP MISSION MATERIAL. TO SUBSTANTIATE THESE FINDINGS IT IS RECOMMENDED THAT THE NEXT OPERATIONAL GLASS LAMP MISSION BE PROCESSED IN BOTH CHEMISTRIES, I.E., THE RIGHT SIDE IN MX578 AND THE LEFT SIDE IN MX819, FOR COMPARISON PURPOSES. IF THIS CANNOT BE ACCOMPLISHED THEN THE FOLLOWING ALTERNATIVES ARE SUGGESTED.

A. A POSSIBLE ADJUSTMENT IN PROCESSING OF THE POSITIVE TO PROVIDE HIGHER CONTRAST.

B. REVERT TO MX578 CHEMISTRY FOR GLASS LAMP NEGATIVE PROCESSING.

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